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Canada Centre for Mineral and Energy Technology | Centre canadien de la technologie des minéraux et de l'énergie

REPORT OF ATTENDANCE AT MEETING OF ISO/TC 27/SC 3

Sub Committee 3 (Coke)
Technical Committee 27 (Solid Mineral Fuels)
International Standards Organization
London, England
November 13-15, 1978

J.C. BOTHAM
COAL RESOURCE AND PROCESSING LABOPATORY

NOVEMBER 1978

ENERGY RESEARCH PROGRAM
ENERGY RESEARCH LABORATORIES
REPORT ERP/ERL 78/117 (TR)

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by

J.C. Botham

PURPOSE

The writer attended the third meeting of ISO/TC27/SC3 as the sub committee expert representing Canada. Sub committee 3(SC3) is concerned with the standardization of methods of test for the physical and chemical properties of coke.

Previous meetings of SC3 were held in Paris, France in 1974 (1) and in London, England in 1976. Canada did not send a representative to the second meeting. The third meeting was considered to be of particular importance to Canada in light of the export of Canadian coking coal to markets other than Japan, the possibility of Canada becoming a serious exporter of coke and other agenda items relevant to current Canadian interests such as high temperature strength tests for coke.

Canada submitted three relevant documents for consideration by the sub committee, namely ISO/TC27/SC3N102, - N103, and N104.

PLACE - DATE - ATTENDANCE - AGENDA

The third meeting of ISO/TC27/SC3 was held at the British Standards Institution Conference Centre, Hampden House, 61 Green Street, London W1, United Kingdom, on November 13 to 15, 1978.

The agenda for the meeting is reproduced as Appendix 1 and a list of those in attendance is given as Appendix 2.

RESULTS OF THE MEETING

Item 1-4 Dr. H.C. Wilkinson, Chairman, was a late arrival due to difficulties of British railway system. Mr. C. Meredith of British Standards Institute acted on his behalf and steered the committee through the first five items of the agenda.

The agenda was approved as circulated. The chairman asked that item 10 on the determination of nitrogen in coke be discussed on the second day of the meeting at which time Professor R. Belcher, Medical Consultant with the University of Birmingham, would be present. Prof. Belcher had pioneered the Kjewahl method for nitrogen determinations in the 1930's and agreed to meet and to discuss problems concerning the use of the method.

Item 5 - Mr. W.H. Tatton of the British Standards Institute (BSI) gave the report of the Secretariat of ISO/TC27/SC3 on work of the Sub committee since the last meeting. The report was circulated as document ISO/TC27/SCN73. He stressed that target dates were required for work items.

Incidentally Mr. Tatton will be retiring from BSI this year and will be succeeded by Mr. E. Hopkin.

Item 6 - The comments from member bodies as given in document ISO/TC27/SC3N76 were reviewed. The comments concerned amendments to ISO/2309 dealing with the sampling of metallurgical coke (minus the breeze) for the determination of any coke property for both routine and special purposes and the preparation of moisture and laboratory samples. The difficulty of sampling coke was generaly recognized by all members. The changes recommended in SC3N76 were in essence editoral in nature. SC3 requested TC27 to incorporate the changes for publication as the 2nd edition of ISO/2309. There was however a general consensus that more work is necessary to clarify the degree of precision in the standard. (Refer to Resolution 20.)

Item 7 - Mr. Nixon (UK) reviewed the UK Document 77 concerning coal and coke sampling from high speed, high capacity conveyors. WG-7 (sampling) was reconstituted after the London meeting of ISO/TC27 in 1976 to look into this matter. He apologized that work on the draft document was slower than anticipated. Hopefully the draft should be available by year's end. The German expert (Dr. Scholz) would like to include brown coal and lignites in the proposed standard. It was recommended that this matter be transferred to SC2 (Refer to Resolution 21).

Item 8 - The Japanese contribution on the influence of total moisture content in coke during sample preparation, namely document ISO/TC27/SC3N79, was reviewed. Since Japan in general does not use coke with a moisture content in excess of 5 percent, it was suggested that further information on cokes with higher moisture levels should be obtained and submitted to the Secretariat for consideration at the next meeting. (Refer to Resolution 22).

Item 9 - Documents ISO/TC27)SC3N81 (Germany) and -N82(UK) pertained to the increase or decrease of the mass of the ash resulting from the conditions of incineration of the coal or coke. The experts from the UK and Germany both agreed the method of cooling and the use of desiccants could have significant influence on the determination of the ash content. In part the results given indicated that the best results could be obtained without the use of a desiccant. Members of SC3 were requested to investigate the methods of cooling of the residue on the ash determination and to include brown coals, hard coals, and lignites as well as coke. (Refer to Resolution 23).

Item 10 - There were five documents submitted for consideration, namely ISO/TC27/SC3N83, - N97, -N98, - N99 from Japan and -N84 from UK. The documents pertain to the use of the Kjeldahl method for nitrogen determinations.

Professor R. Belcher developed this method about 40 years ago. He gave an interesting account of the method and explained that he felt some improvements could be made to the technique in light of recent analytical advances.

The Japanese were asked to explain the importance of nitrogen contents of coke in their country. Mr. Nomora explained that the determination was required for environmental control purposes. The nitrogen in coke for use in sintering must be less than 1.5 percent with a tolerance of 0.067 in the method of tests. Dr. Wilkinson explained that in the UK the acceptable level for environmental control varies according to the location of the sintering plant. Nitrogen in the coke can be removed to acceptable levels by high temperature calcination.

The evidence given shows that the present method (ISOR333) is not a reliable indicator of the true nitrogen content of coke. The Secretariat of SC3 will canvass the sub committee members concerning the formation of a WG to look into this problem (Refer to Resolution 26).

Item 11 - There were seven documents submitted concerning a comparison of different strength tests (i.e. ISO/TC27/SC3N85, -N87, -N91, -N92, -N95, -N102, and -N103). Two of the documents were of Canadian origin.

The Chairman reviewed the various test methods for the determination of coke strength. He acknowledged with appreciation the documents submitted stating that although they were of general interest they were not directly pertinent to the SC3 task (i.e. to standardize a method of tests, not to compare the results from the various methods of testing). Mr. Tatton suggested that the members consider the documents and submit

their comments prior to 30 March 1979. A ISO data sheet of this useful information could be prepared, subject to the approval of TC27, and released for use by those working in this field. (Refer to Resolution 27).

Item 12 - There were two documents submitted concerning strength tests for coke at elevated temperatures (i.e. ISO/TC27SC3N104 from Canada and -N89 from Japan). The Canadian document was a review paper while the Japanese paper dealt with the results which they had obtained from the use of their proposed method of test. Mr. Mianowski commented that France has also developed a high temperature test for coke now operating at 1200°C and has obtained results similar to those reported by Japan. He remarked that they have tested a formed coke sample which performed poorly under ambient conditions but gave good results when tested at high temperatures. The Japanese method employs a nitrogen atmosphere with temperatures up to 1500°C. He recommended that the Japanese should use a similar atmosphere to that of the blast furnace at the tuyere level.

Dr. Wilkinson reviewed the extensive work carried out by BCRA. It was the general opinion of the members present that methods of testing coke at high temperatures are extremely valuable in research studies but at the present time are not practical for consideration as a standard method of test. SC3 requested the Secretariat to transmit any further information to the members for consideration at the next meeting of SC3. (Refer to Resolution 28).

Item 13 - Documents ISO/TC27/SC3N89 and -N101 concern the revision of ISO/R1213 - III dealing with a vocabulary of terms relating to coke. A revised document was requested of the Secretariat incorporating the comments of the German and Polish member bodies. Also all member bodies of SC3 are requested to send their further comments on -R1213 to the Secretariat prior to Dec. 31, 1978. (Refer to Resolution 24).

Items 14 to 18 - Mr. Stojkovic, the expert from Jugoslavia, asked if SC3 would consider coke specification as an item for future work. After considerable discussion it was agreed that international specifications for coke quality would be difficult to establish and would not fall within the scope of SC3.

NEXT MEETING

The next meeting was tentatively scheduled for April or May of 1981. The writer offered to host the next meeting at the school of Fine Arts in Banff Alberta pending approval.

REFERENCES

1. J.C. Botham, "Report of Attendance at the First Meeting of ISO/TC 27/SC 3 (Solid Mineral Fuel/Coke)", Metals Reduction and Energy Centre Divisional Report MREC 74/53, July 1974.

date
1978-08-10
host/invitant
BSI

ISO/TC 27/SC 3
secretariat
BSI

N 72

SOLID MINERAL FUELS/COKE

COMBUSTIBLES MINERAUX SOLIDES/COKE

MEETING/RÉUNION 27/3 - 3

Meeting date/dates de réunion

1978-11-13/15 (morning/matin)

Place/lieu
British Standards Institution Conference Centre
Hampden House
61, Green Street
LONDON/LONDRES W1
United Kingdom/Royaume-Uni

P and O members are requested to notify their attendance at the meeting (see Directives 4.5.7).

Les membres (P) et (O) sont invités à faire connaître leur participation à la réunion (voir Directives 4.5.7).

DRAFT AGENDA

1. Opening of the meeting (10 h 30)
2. Roll call of delegates
3. Appointment of the drafting committee
4. Adoption of the agenda
5. Report of the secretariat
6. ISO/DIS 2309 - Coke sampling - To consider comments received from member bodies of ISO
   Doc. ISO/TC 27/SC 3 N 76 *
7. Coke - Sampling from high speed, high capacity conveyors
   To consider report of convenor of ISO/TC 27/WG 7 - Sampling
   Doc. ISO/TC 27/SC 3 N 77 *
8. Determination of moisture: influence of the mass of the test sample
   - 8.1 Contribution from German member body
     Doc. ISO/TC 27/SC 3 N 78 *
   - 8.2 Contribution from Japanese member body
     Doc. ISO/TC 27/SC 3 N 79 *
9. Determination of ash, influence of sulphur and calcium oxides
   - 9.1 Contribution from Czechoslovakian member body
     Doc. ISO/TC 27/SC 3 N 80 *
   - 9.2 Contribution from German member body
     Doc. ISO/TC 27/SC 3 N 81 *
   - 9.3 Contribution from United Kingdom member body
     Doc. ISO/TC 27/SC 3 N 82 *

* In preparation

PROJET D'ORDRE DU JOUR

1. Ouverture de la réunion (10 h 30)
2. Appel des délégués
3. Désignation du comité de rédaction
4. Adoption de l'ordre du jour
5. Rapport du secrétariat
6. ISO/DIS 2309 - Echantillonnage du coke - Examen des commentaires reçus des comités membres de l'ISO
   Doc. ISO/TC 27/SC 3 N 76 *
7. Coke - Echantillonnage sur bandes transporteuses de grande capacité et à grande vitesse
   Examen du rapport du responsable du GT 7 - Echantillonnage
   Doc. ISO/TC 27/SC 3 N 77 *
8. Détermination de l'humidité : influence de la masse de l'échantillon d'essai
   - 8.1 Contribution du comité membre de l'Allemagne
     Doc. ISO/TC 27/SC 3 N 78 *
   - 8.2 Contribution du comité membre du Japon
     Doc. ISO/TC 27/SC 3 N 79 *
9. Passage des cendres, influence des oxydes de soufre et de calcium
   - 9.1 Contribution du comité membre de la Tchécoslovaquie
     Doc. ISO/TC 27/SC 3 N 80 *
   - 9.2 Contribution du comité membre de l'Allemagne
     Doc. ISO/TC 27/SC 3 N 81 *
   - 9.3 Contribution du comité membre du Royaume-Uni
     Doc. ISO/TC 27/SC 3 N 82 *

* En cours de préparation

A:30936-1/E/F

10. Determination of nitrogen

10.1 Contribution from Japanese member body
Doc. ISO/TC 27/SC 3 N 83 *

10.2 Contribution from United Kingdom member body
Doc. ISO/TC 27/SC 3 N 84 *

11. Comparison of different strength tests (JIS and ISO drums)

11.1 Contribution from French member body
Doc. ISO/TC 27/SC 3 N 85 *

11.2 Contribution from German member body
Doc. ISO/TC 27/SC 3 N 86 *

11.3 Contribution from Japanese member body
Doc. ISO/TC 27/SC 3 N 87 *

12. Strength tests at high temperature

12.1 Contribution from Japanese member body
Doc. ISO/TC 27/SC 3 N 88 *

13. Revision of ISO/R 1213/III - Vocabulary of terms relating to solid mineral fuels - Part III: Terms relating to coke
Secretariat proposal
Doc. ISO/TC 27/SC 3 N 89 *

14. To consider any other proposals for new work

15. To consider the future programme of work and relative priorities

16. Requirements concerning a subsequent meeting

17. Any other business

18. Approval of resolutions and of statement of results.

* In preparation

10. Dosage de l'azote

10.1 Contribution du comité membre du Japon
Doc. ISO/TC 27/SC 3 N 83 *

10.2 Contribution du comité membre du Royaume-Uni
Doc. ISO/TC 27/SC 3 N 84 *

11. Comparaison de différents essais de résistance (tambours JIS et ISO)

11.1 Contribution du comité membre de la France
Doc. ISO/TC 27/SC 3 N 85 *

11.2 Contribution du comité membre de l'Allemagne
Doc. ISO/TC 27/SC 3 N 86 *

11.3 Contribution du comité membre du Japon
Doc. ISO/TC 27/SC 3 N 87 *

12. Essais de résistance à température élevée

12.1 Contribution du comité membre du Japon
Doc. ISO/TC 27/SC 3 N 88 *

13. Révision de l'ISO/R 1213/III - Vocabulaire des termes relatifs aux combustibles minéraux solides - Partie III : Termes relatifs au coke
Proposition du secrétariat
Doc. ISO/TC 27/SC 3 N 89 *

14. Examen de toutes autres propositions pour de nouvelles études

15. Examen du programme des travaux futurs et de leurs priorités relatives

16. Conditions requises pour la prochaine réunion

17. Divers

18. Approbation des résolutions et de l'exposé des résultats.

* En cours de préparation

Document No:- ISO/TC 27/SC 3 N 100
13 November 1978

ISO INTERNATIONAL ORGANIZATION FOR STANDARDIZATION APPENDIX
ORGANISATION INTERNATIONALE DE NORMALISATION

ISO/TC 27/SC 3 - Coke

Secretariat United Kingdom

From: BRITISH STANDARDS INSTITUTION
2 PARK STREET
LONDON W1A 2BS

Telephone: 01-629 9000

Telegrams: STANDARDS LONDON W1

Telex 266933 (Head Office)
23218 (Sales & Accounts)

LIST OF DELEGATES FOR ISO/TC 27/SC 3
MEETING - 13-15 NOVEMBER 1978

CHAIRMAN - Dr H C Wilkinson
British Carbonization Research Association
WINGERWORTH
Chesterfield
Derbyshire
S42 6JS

ISO/TC 27/SC 3 SECRETARIAT - Mr W H Tatton
British Standards Institution

ISO/TC 27 SECRETARIAT - Mr C Meredith
British Standards Institution

ISO CENTRAL SECRETARIAT - Dr R Farkany
1 rue de Varembé
Case postale 56
1211 Genève 20
SWITZERLAND

CANADA

Mr J C Botham - Department of Energy & Resources
Canmet
555 Booth St
Ottawa Ont
CANADA

Mr J Montgomery - Department of Energy & Resources
Canmet
555 Booth St
Ottawa Ont
CANADA

FRANCE

Mme Becker - AFNOR
Tour Europe
Cedex 7
92080 Paris - La Défense
FRANCE

78/50966

M R Mianowski - ORCIS - BNS
232 rue Nationale
BP 64
57601 Forbach Cedex
FRANCE

M R Paoletti - SACILOR
SOLLAC

GERMANY

Dr A Scholz - Ruhrkohlv AG Essen

JAPAN

Mr Masataka Eguchi - NIPPON KOKAN KK

Mr Kazuo Nomura - Toyko Gas Co Ltd

Mr Shuzo Yamada - MARUBENI Corp

POLAND

Prof W Krause - Instytut Chemicznej Przeróbki
Węgla Zabrze
Ul Kossaka 53
POLAND

Mr S Pluszczyk - Polish Embassy
LONDON

UNITED KINGDOM

Prof R Belcher - Medical Consultant
University Of Birmingham

Mr A B Nichols - National Coal Board
Coal House
Lyon Road
HARROW
Middx

Mr E W Nixon - British Steel Corporation
Scunthorpe and Lancashire Group
PO Box No 1
SCUNTHORPE
South Humberside
DN16 1BP

Mr R W Turner - British Carbonization Research Association
WINGERWORTH
Chesterfield
Derbyshire
S42 6JS

Mr S Wald - National Coal Board
(See above)

YUGOSLAVIA

Mr S Stojkovic - Yugoslav Institution for Standardization
Dept of Mining & Metallurgy
BELGRADE

BSI

Mr E Hopkin
Mr A D Mildren

INTERPRETER - Mrs N Saxe

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